A CONSIDERATION FOR THE FROSTIG PROGRAM

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PREFACE

This paper aims to introduce you to the Frostig program, which is regarded as one of the most important educational programs for the learning-disabled children in the U.S.A., and to show my consideration how to utilize this program in Japanese educational institution. It seems to be useful in the recent educational situation in Japan, where we have lots of problems caused by many children who can not catch up with their classmates in their school works, so to say "ochikobore." When we desire the welfare of children in Japan of today, we can not ignore these educational problems in school. The writer presents this paper teachers, coachers and others who immediately direct young children everyday, wishing the welfare of children in school.

For this purpose, this paper will explain what the term "learning disabilities" means at first. Then, we will give an outline of process training, which is one educational approach for learning-disabled children, and specify the Frostig program as a general example of process training with a view of concluding this paper as a consideration for the Frostig program.

DEFINITIONS AND CHARACTERISTICS OF LEARNING DISABLED CHILDREN

The first definition of learning disabilities was proposed by Samuel Kirk in 1963 in New York City to describe a particular type of learning problem of children who have normal or near-normal intelligence[1]. Although there are some different definitions on the term "learning disabilities" today, the following factors are universally accepted[2].

a. As there is academic retardation, discrepancies between IQ tests and achievement tests exist.

b. An uneven pattern of development is shown in a wide range of scores on different achievement tests such as reading, arithmetic, and spelling.

c. There is no scientific evidence to indicate that all learning-disabled children have central nervous system dysfunction.

d. Although early definitions held that learning disabilities were not due to environmental disadvantage,mental retardation, or emotional disturbance, recent definitions have omitted these exclusions because of the similarity of behavioral characteristics of children in these areas.

In the recent definitions of learning disabilities, Hallahan and Kauffman's definition and the Wepman Committee definitions are important. The former simply states that "a learning-disabled child is one who is not achieving up; to his potential." It means that such a child may have any level of intelligence and may have any reason for learning problems.[3] On the other hand, the latter definition specifies that the problem is "perceptual or perceptual-motor handicaps," in spite of no limitations on the reason and the cause of learning disabilities. "Perceptual" here refers to a person's ability to organize and

interpret sensory information meaningfully; it is different from the ability to get the information acutely.[4]

Although perceptual or perceptual-motor impairment is not always regarded as a factor of the definitions of learning disabilities, it is usually counted as one of the most frequently cited symptoms of learning disabled children, along with hyperactivity, emotional lability, general coordination deficits, disorders of attention, impulsivity, disorders of memory and thinking, specific academic problems, disorders of speech and hearing, and equivocal neurological signs and EEG irregularities.[5] Moreover, the evidence is strong that many learning-disabled children perform poorly on tasks which are designed to assess visual and auditory perceptual abilities. So many educators are interested in perceptual problems of children with learning disabilities, and many tests and trainings of perception are devised for those children.[6] But we have to be careful to the fact that some children can learn well in spite of perceptual problems, and that not all children with learning disabilities have perceptual deficits. We must avoid to assign learning disabilities simply to perceptual problems. Perceptual-motor and general coordinational problems are also related to learning problems, but these not always lead to learning disabilities, either.[7]

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[1]Daniel P. Hallahan and James M. Kauffman, Exceptional Children(New Jersey: Prentice-Hall,Inc., 1978),P.120.

[2]Ibid., PP.122-25.

[3]Ibid., P.125

[4]Ibid.

[5]Ibid., P.137

[6]Ibid., PP.138-39.

[7]Ibid., P.139.

PROCESS TESTS AND PROCESS TRAINING

Process tests have been developed to diagnose underlying processing deficiencies which are regarded as the cause of the child's academic problems. Here, "processing" means "what takes place after an individual has perceived something by means of his senses -- how he interprets or puts it to meaningful use intellectually."[1] In this method, a reading difficulty is not a simple reading problem, but deficiencies of the psychological (usually perceptual or psycholinguistic) processes, which should be corrected in educational program we call process training. So, a child who is diagnosed to have reading problems because of difficulties in visual perception will be trained to improve visual perception by process training rather than reading techniques by academic program itself.[2] In spite of that there are some opponents who judge process tests and training for learning-disabled children to be low in their reliability and validity, there are a lot of strategies based on the idea of psychological processes. These programs have been devised to train visual, visual-motor skills or psycholinguistic processes of children with learning problems according to the information led from the matchable test of each training. For example, Frostig's visual perception training is devised to be used with the Frostig Developmental Test of Visual Perception; the psycholinguistic training developed by Kirk and Kirk, and Minskoff, Wiseman, and Minskoff are designed for use with Illinois Test of Psycholinguistic Abilities. Though there are more other popular approaches of Kephart, Barsch, Getman and so on, all of these process training approaches are very similar in those ideas, activities,

and materials. Furthermore, it is usual that such process training approaches are utilized for learning-disabled children in combination with other kinds of educational approaches such as multisensory approaches, structure and stimulus reduction, and cognitive training.[3]

In this paper, however, we focus our attention on Frostig's approach as a general example of process training.

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[1]Daniel P. Hallahan and James M. Kauffman, Exceptioanl Children (New Jersey: Prentice-Hall, Inc., 1978), p. 130.

[2]Ibid., p. 148.

[3]Ibid., pp. 130-33; 147-53.

THE FROSTIG PROGRAM

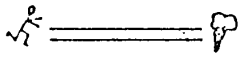
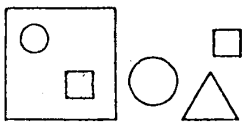
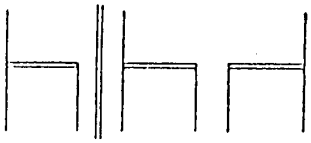
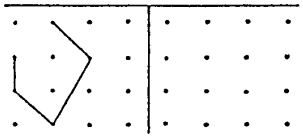
Marianne Frostig's approach is one of the most famous perceptual-motor programs, whose basic theory is that "visual perception is a primary skill in the acquisition of reading competence and that perceptual-motor training will facilitate the development of both perceptual-motor and reading skills."[1] But, Frostig's specific interest in the child's visual-perception constitues the characteristic feature of her program. That is, the Frostig Developmental Test of Visual Perception (DTVP) purports to measure relatively narrow area of fine-motor development and visual-perceptional skills, and most of her trainings are limited to the visual discrimination and pencil-paper work[2].

In her appraoch, first, the DTVP which is designed to assess five areas of visual perception such as eye-motor coordination, figure-ground perception, constancy of shape, position in space, and spatial relationship, is utilized to pinpoint what particular kind(s) of perceptual deficit(s) the child has. Then, the child is given corresponding exercises designed to raise performance in the deficit areas, based on the result of testing[3]. The copy of the Brief Summary of the DTVP test[4] (see Table 1 on the next page) will help you to understand each area of visual perception in the Frostig program.

"Eye-motor coordination" is a test of eye-hand coordination such as drawing straight, curved, or angled lines between boundaries of width or from point to point without guidelines. These activities are considered to be necessary for handwriting, drawing, arts, crafts and so on. "Figure-ground" is a test of finding a hidden figure such as triangle, star

TABLE 1

Frostig Developmental Test of Visual Perception (Brief Summary)

Subtest Name	Example	Some Functions Covered	Some Suggested Training Procedures
Eye-motor coordination 	Draw straight lines horizontally. Stop and start on target.	Eye-hand coordination. Necessary for handwriting, drawing, arts and crafts, manipulatory and self-help activities.	Eye-movement training. Arts and crafts. Manipulatory exercises. Handwriting exercises. Physical education program.
Figure-ground 	Find a hidden figure. Find one of two or several intersecting figures.	Ability to focus visually on relevant aspects of visual field and disregard irrelevant background.	"Finding" games; e.g., hidden figures included in many children's activity books. Sorting exercises. Unscrambling intersecting words such as 
Form constancy 	Find all the squares on a page regardless of color, background, tilt, size.	Ability to see sameness of essential form despite changes of image on retina. Has implication for learning to identify letters presented in various printing styles.	Identifying objects or drawings at different distances or angles. Drawing diagrams of three dimensional patterns. Finding all objects of a certain shape in the room.
Position in space 	Find the form that is reversed or rotated.	Ability to discriminate position; to differentiate letters such as "*d*" and "*b*", "*w*" and "*m*".	Exercises promoting awareness of body position in relation to objects —go under the table, over chair, around the desk, and so on. Physical education program. Learning directions in space: right, left.
Spatial relations 	Duplicate a dot pattern by linking dots with a line.	Ability to see spatial relationships of objects to one another; related to ability to perceive the sequence of letters in a word.	Copying patterns with pegs, beads, marbles; puzzles.

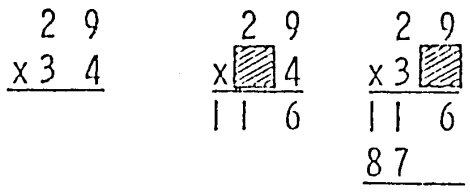


FIGURE 1

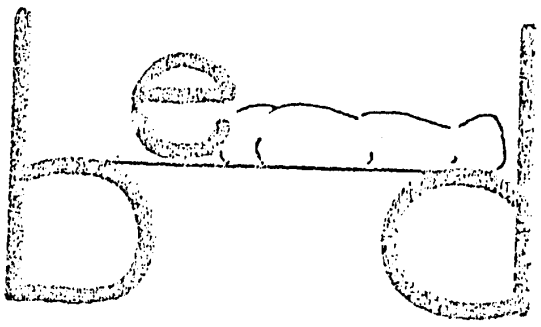


FIGURE 2

or kite against increasingly complex grounds. This examines children in ability to focus visually on relevant aspects of visual field and disregard irrelevant background. "Form consancy" is a test of finding certain geometric figures in a variety of sizes, shadings, textures, and positions in space. Such ability to recognize sameness of essential form despite changes of image on retina is important to identify letters presented in various printing styles. "Position in space" is a test of finding the form that is reversed or rotated. Such activity tests the child's ability to discriminate, for example, a letter "d" from "b", a numeral "6" from "9", or a word "nap" from "pan." "Spatial relationships" is a test of duplicating simple forms and patterns, by using dots as guide points. Such ability to see spatial relationships of objects to one another is considered to be connected with ability to perceive the sequence of letter in a word.[5]

About the effectiveness of visual perceptual training, Frostig insists as the following:

> If visual-perceptual training is to help the child most effectively, the teacher must "teach for transfer." That means that she must (1) point out to the child similiarities between the games and tasks he uses during perceptual training and those he undertakes during academic work, and (2) Develop exercises that help to make the transfer easier.[6]

Thus, Frostig attaches importance to the work of teacher to apply perceptual trainings to academic works. Then, she shows some concrete examples to teach math and reading by using her basic theory of perceptual training. For instance, Frostig proposes that teacher use such aids as vertical lines to place

figures correctly below each other for children with difficulties in eye-motor coordination, when teacher let them add or subtract[7]. For a child with disabilities in figure-ground perception, for example, Frostig proposes to use color cues and cut-out letters which help him focus on proper stimuli[8]. Frostig also teaches us that a small rectangular piece of paper with which to cover excessive stimuli is useful for such children, especially when they have confusion in multiplication and long division because of looking at too many numerals (see Figure 1)[9]. For b-d discrimination which is difficult for children with disturbances in perception of position in space and directionality, Frostig devises the mnemonic "bed" which has the configuration of a bed (See Figure 2).[10]

But, there are some opponents such as Bryan who thinks that general perceptual motor training programs improve children's perceptual-motor skills but do not facilitate their improvement in academic works.[11] They usually insist that it is more effective to participate in activities directly connected with reading in order to improve reading skills.[12] Unfortunately, the reliability and validity of process tests and trainings are generally believed to be poor.[13]

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[1]Frank M. Hewett and Steven R. Forness, Education of Exceptional Learners(Boston:Allyn and Bacon,1977),P.114.

[2]Norris G. Haring, ed., Behavior of Exceptional Children (Ohio:Charles E. Merrill Publish Company,1974),p.352.

[3]Hallahan and Kauffman,Exceptional Children,p.132.

[4]Marianne Frostig and Phyllis Maslow, Leaning Problems in the Classroom(New York: Gune & Stratton, Inc.,1973), pp. 126-27.

[5]Ibid. [6]Ibid.,p.199. [7]Ibid., p.277.

[8]Ibid.,pp.278,306 [9]Ibid.,p.279. [10]Ibid., pp. 308-309.

[11]Hewett and Forness, Education of Exceptional Learners, p. 115.

[12]Ibid.

[13]Hallahan and Kauffman, Execptional Children, pp.131,150.

A CONSIDERATION FOR THE FROSTIG PROGRAM

When I knew the Frostig program for children with learning disabilities during my studying in the U.S.A., I intuitively felt its importance for very young children from my small teaching experience at a kindergarten in Japan. The past intuition urges me to write this paper now. I make bold to express only my consideration for the Frostig program without sufficient verification here, expecting somebody who can verify this paper to give me field reports.

We learned that the Frostig program had been devised especially to develop visual-perceptual skills of children with learning disabilities, and that it seemed to be useful to teach children, for example, the visual discrimination of confusing letters such as "b" and "d". Well, it is natural that preschool and kindergarten children reverse or rotate letters and numerals. Furthermore, I know that such young children love to play such kinds of games and puzzles as Frostig proposed for learning-disabled children, and that they are anxious to write various kinds of lines, shapes, and even letters and numerals. Therefore, the writer thinks, the Frostig program must be very available for all children in preschool or kindergarten.

Frostig herself indicates many examples suited for such young children[1]. But, her general interest are rather in children with learning difficulties in school than in all children in kindergarten, even though she notes the importance of diagnosis and training in early stages.[2] It may depend on the rate of entrance to kindergarten. Fortunately in Japan,, most of children of five learn in kindergarten or similar nursery schools, and the importance of educa-

tion for the pre-school aged being cried loudly day by day. So, the writer thinks, if we can recognize the effectiveness of some of Frostig program in early stages around five years old, we can thoroughly use her program for most of children of pre-school ages and hence some learning problems in school which are mainly caused by visual perceptual deficit will decrease.

Although we know that there are opponents of process tests and trainings such as the Frostig program, we should not forget that Hallahan and Cruickshank noted as the following: "Definitive conclusions (about the effectiveness of process training) were difficult to reach because the vast majority of research had been very poorly done."[3] I imagine that most of researches of process training may be done about the relation between process training and immediate academic effectiveness of children in school, and that the comparison of the rate of academic achievement between children who were trained in their pre-school days and children who were not may not be verified.

I agree that understanding of psychological processes is very important and useful to educate all children and to treat some learning-disabled children. Nevertheless, it is hard even for me to believe that Frostig's visual perceptual training, especially the training for older children will facilitate academic improvement effectively, even if teachers "teach for transfer"[4] as Frostig insists. For older children in school, we need to take into account their abilities and interests of higher levels. In this point, I rather agree with Bryan and others who propose to take part in a academic works directly.[5]

The writer believe, it is younger children who really need various kinds of training of perceptual skills — not only visual perception but also auditory, kinesthetic, tactile and so on — as the first step to learn. Of course, any kindergarten or preschool has been already educating children through some perceptual trainings, since lots of educators such as Froebel and Montesori have insisted the importance of providing young children with direct contact with their environment. The writer considers, however, educators of younger children must be suggested lots of appropriate teaching methods by knowing process training such as Frostig's, and then process training will become more effective as a way of prevention of learning disabilities if the training is thorough in younger children.

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[1]Frostig and Maslow, Learning Problems in the Classroom, pp. 179-93

[2]Ibid., p. 108.

[3]Hallahan and Kauffman, Exceptional Children, p. 149.

[4]Frostig and Maslow, Learning Problems in the Classroom, p. 199.

[5]Hewett and Forness, Education of Exceptional Learners, p. 115.

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